(MIRA 13:12)

SERPICHEVA, Z.S., inzh. Methods for calculating and planning efficient organization of milking by machinery. Nauch..trudy VIESKH 6:86-116 159.

(Milking machinery)

SERPIK, B.I.

Method of determining lateral influx of water into the river. Trudy
GGI no.43:113-143 '54.

(Rivers)

			2
Effect of the Fe	orm of Fearlite and the Fer	rite Grain Size on 1	the Properties
of Steel Castings. M. I	M. Kantor and N. M. Serpik.	(Liteinoe Proizvods	stvo, 1955, (5).
the structural component	An investigation is descrits of annealed steel casting	bed of the effect of	the form of
parameters. Specimens	were subjected to various h	igs on various mechai leat-treatments givir	ical-property
gramular pearlite. The	tensile properties here de	termined and related	to the form of
the pearlite S.K.			
A FEX	그는 이 것으로 면든 많이 없었다.		\ \( \lambda \)
NV.		DJ =	$W^{\Gamma}$
			$\theta$
			W W
in the second se			

SERPIK, N.M., inzhener.

Investigating the vear resistance of blades used in excavating machines. Stroi. i dor, mashinostr. 2 no.5:17-15 My '57.

(Excavating machinery) (HIRA 10:6)

137-58-2-3417

N 11

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 162 (USSR)

AUTHORS: Serpik, N.M., Bekerman, Ye. A.

TITLE: Heat Treatment of Low-Alloy Steel Castings (Termicheskaya

obrabotka otlivok iz nizkouglerodistoy stali)

PERIODICAL: Tekhnol. transp. mashinostrcyeniya, 1957, Nr 7, pp 11-13

ABSTRACT: Eleven different heat treatment schedules for 8 melts of steel of the following percent composition: C 0.17-0.24, Mn 0.65-0.79, S 0.028-0.032, P 0.020-0.028, Si 0.28-0.33, were tested to clarify the effects of deviations in the heat temperatures and holding

time upon the mechanical properties of steel, and also to determine the advantages of localized annealing (LA) over low-temperature treatment and the possibility of air cooling of steel when LA is performed. It was found from mechanical testing (for  $\mathcal{O}_b$ ,  $\mathcal{O}_s$ ,  $\mathcal{O}_s$  and  $\mathcal{O}_s$ ) and metallographic investigation that LA is a cheaper operation than low-temperature annealing and more conducive to improving plastic properties. Annealing followed by air-hardening is the most advantageous procedure. Temperature fluctuations from  $Ac_1$  to  $Ac_1+60$ , and holding time

A. B.

1 Steel castings == Heat treatment

Increasing the wear resistance of soil-cutting blades. Stroi.
i dor. mashinostr. no.4:33-34 Ap '58. (MIRA 11:4)
(Road machinery)

AUTHORS: Serpik, N. M., Engineer and Kantor, M.M., Candidate of 129-58-7-11/17

TITLE: Effect of Heat Treatment on the Wear Resistance of Steel in Soil (Vliyaniye termicheskoy obrabotki na iznosostoykosti stali v gruntovoy masse)

PERIODICAL: Metallovedeniye i Obrabotka Metallov, 1958, Nr 7:

ABSTRACT: The authors investigated the wear resistance of various steels in soil as a function of the composition, the structure and the type of heat treatment, including isothermal heat treatment which up to now is not being used for components of earth working machinery. Isothermal heat treatment at certain temperatures ensures the formation of more uniform structures of carbide-ferrite mixtures with smaller quantities of ultra-microscopic cracks which should result in an increased wear resistance, compared with components subjected to ordinary hardening and Subsequent tempering, for otherwise equal hardness. The compositions of the investigated (seven) steels are entered in Table 1, p.47; the average values of the wear resistance of these steels as a function of the applied Card 1/2

Effect of Heat Treatment on the Wear Resistance of Steel in Soil heat treatment are entered in Table 2, p.48. were carried out on a specially designed test stand in which the specimens were subjected to wear under conditions which closely resemble those in practical operation, On the basis of the results the authors conclude that hardness alone is not an adequate indication of the wear resistance of steel, since the conditions of heat treatment and the structure of the metal also play an important role. For the investigated steels isothermal heat treatment ensures a higher wear resistance than hardening followed by tempering. Maximum wear resistance was obtained for the steel U12 after isothermal heat treatment for producing acicular troostite with excess carbides. The wear resistance of this steel was 1.5 times as high as of ploughshare's steel heat treated to the same hardness by Card 2/2 There are 4 figures and 2 tables,

ASSOCIATION: Bryanskiy institut transportnogo mashinostroyeniya (Bryansk Institute of Transport-Machinery Construction)

KANTOR, M.M., kand.tekhn.nauk; SERPIK, N.M., inzh.; VENTSKOVSKIY, Z.L., inzh.; MERKULOVICH, V.A., inzh.

Investigating causes of wear of transmission gear boxes of the D-265 motor grader. Stroi.i dor.mashinostr. 4 no.12: 17-19 D '59.

(Road machinery--Transmission devices)

YELISTRATOV, P.S.; SERFIK, N.M.

Effect of the removal by flame of steel casting defects on the quality of welded joints. Lit.proizv. no.11:36-38 N '61. (MIRA 14:10)

(Steel: castings—Finishing)

(Welding—Testing)

L 15489-63 EWP(q)/EWT(m)/BDS AFFTC/ASD Pad JD ACCESSION NR: AR3003754. S/0137/63/000/005/I058/I058

SOURCE: RZh. Metallurgiya, Abs. 51316

58

AUTHOR: Kantor, M. M., Serpik, N. M.

TITLE: Investigation of chromium steels for their replacement of scarce chromium-nickel steels

CITED SOURCE: Tr. Bryanskogo in-ta transp. mashinostr., vy\*p. 19, 1961, 294-300

TOPIC TAGS: chromium steel, hardness, viscosity tempering

TRANSLATION: The influence of the CrNand C content on a and the hardness of the steel after quenching with high tempering (T) was investigated on 16 steels of various compositions. The steels contained 0.21-0.88% C, 0.23-0.51% Mn. 0.14-0.52% Si, 1.10-4.08% Cr, 0.017-0.43% S, and 0.014-0.028% P. T was performed at 500, 600, and 700°. It was established that chromium steels yield to carbon Cr\_Niveteels with respect to ak only at T temperatures of 550-650°. In the case of T at 700°, the former steels surpass the latter both with respect to hardness and with respect to viscosity. Moreover, the higher the C content in

Card 1/2

L 15489-63 ACCESSION NR: AR3003754

chromium steels, the greater the effect of alloying with Cr. For example, when the Cr content is increased from 0 to 3.5%, ak increases from 16.6 to 20 kg-wt/cm<sup>2</sup> for steel with 0.35% C, from 9.2 to 18 kg-wt/cm<sup>2</sup> for steel with 0.6%.C, and from 183 to 220, from 166 to 315, and from 230 to 283, respectively. The data obtained indicate that high strength and a can be achieved in steel alloyed obtained indicate that high strength and ak can be achieved in steel alloyed with Cr by increasing the T temperature after quenching to 700°. A. Sobolev.

DATE ACQ: 21 Jun 63

SUB CODE: ML

ENCL: 00

Card 2/2

SERPIK, N.M.; KANTOR, M.M.

Effect of chromium on the mechanical properties of improved steel. Metalloved. i term. obr. met. no.5:28-29 My '64. (MIRA 17:6)

1. Byranskiy institut transportnogo mashinostroyeniya.

SERPIK, N.M.; KANTOR, M.M.

Cast iron resistance to abrasive wear. Metalloved, i term. obr. met. no.7:49-51 J1 164. (MIRA 17:11)

1. Bryanskiy institut transportnogo mashinostroyeniya.

BEKERMAN, F.A.; KANTOR, M.M.; SERPIK, N.M.; KUGEL', R.V.

Low-alloy steel for tractor track units. Lit. proizv. no.9:1-2 S '64.

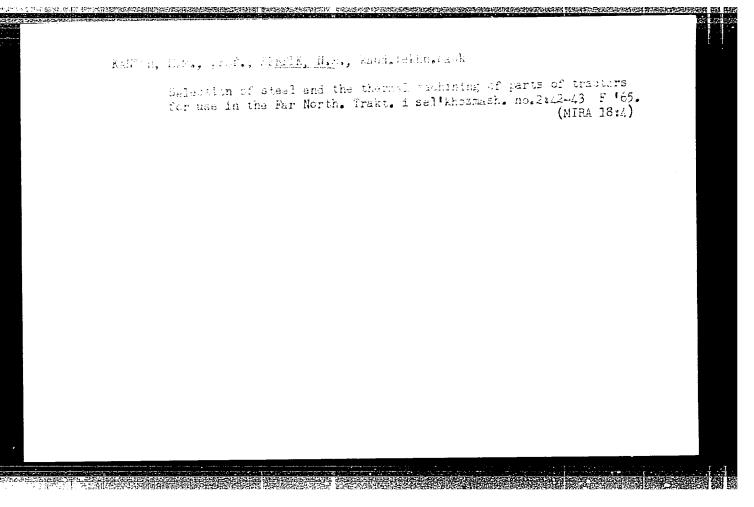
(MIRA 18:10)

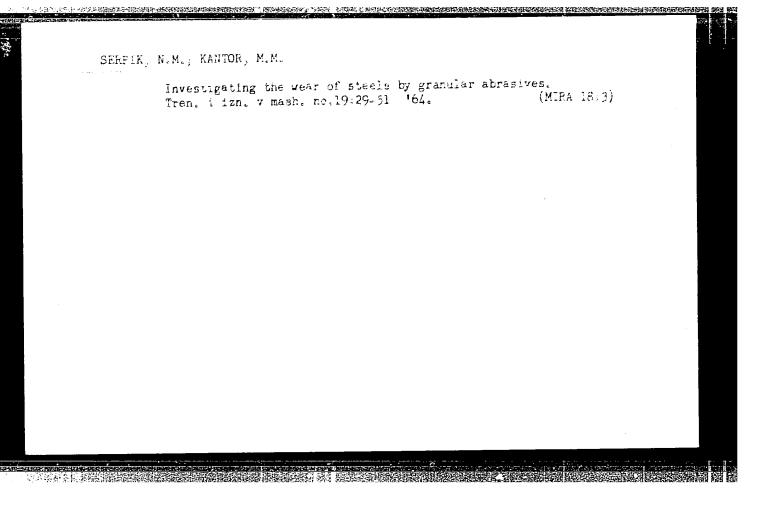
HERFRMan, F.A., ingh., Biffelk, N.M., kand. tekhn. nauk

Temperature for tempering crawler links from KDLVT steel.

Trakt. i sel'khoznash. no.10:42 0'64. (MIRA 17:12)

1. Bezhitskiy stalelitsynyy zavod.





N)<sub>L 10817-66</sub> EWT(m)/EWA(d)/EWP(t)/EWP(z)/EWP(b) IJP(c) MJW/JD SOURCE CODE: UR/0343/65/000/009/0043/0043 AP6000041 ACC NR AUTHOR: Bekerman, F.A. (Engineer); Kantor, M.M. (Professor); Serpik, N.M. (Candidate of technical sciences); Romashov, B.A. (Engineer) 44.53 ORG: [Bekerman] Bezhitsk Steel Mill (Bezhitskiy staleliteynyy zavod); [Kantor, Serpik] Bryansk Institute of Transport Machinery Building (Bryanskiy institut transportnogo mashinostroyeniya); [Romashov] Bryansk Automobile Plant (Bryanskiy avtomobil'nyy zavod) 44,55 TITLE: Investigation of a new brand of steel for tracks of T-140 tractors 44,55,1 SOURCE: Traktory i sel'khozmashiny, no. 9, 1965, 43 TOPIC TAGS: steel, tracked vehicle, high alloy steel, vehicle component, CHEDICAL COMPOSITION, CARDON STEEL, SOLID MECHANICAL PROPERTY / T-140 TRACKED VEHICLE, IPKAGST STEEL SOKHOLST STEEL ABSTRACT: The Bezhitsk Steel Mill (Bezhitskiy staleliteynyy zavod), Braynsk Institute of Transport Machinery Building (Bryanskiy institut transportnogo mashinostroyeniya), and Bryansk Automobile Plant (Bryanskiy avtozavod) have conducted a study aiming to replace the high-alloy and expensive KDLVT steel for tracks of T-140 tractors with either 20KhG2ST or 18KhGST steel. The chemical compositions of the two steels investigated are given in Table 1 (in %). The 20KhG2ST steel was chosen over the 18KhGST steel because a high carbon content leads to a reduction in the impact strength of the steel, and test melts with a high magnesium content showed cracks when the castings were hammered out of their molds. It is noted that UDC: 669.14.018:629.11.01.012.57 1/2 Card

٢	L 10817-				·		,			<u> </u>	7
	ACC NR	AP6000041			•					15	
		Brand of steel	С	Ma	SI	TI	Cr	P	. 5		
	(n) -	20KhG2ST 18KhGST	0,17-0,24 0,15-0,22	1,3—1,6 1,0—1,3	0,5—0,8 0,5—0,8	0,06—0,1 0,06—0,1	0,6—0,9 0,6—0,9	<0,045 <0,045	<0,045 <0,045	ř	
		Table 1.	Chemical o	composi	tion of 2	OKhG2ST	and 18K	hGST s	teels		
ļ	the cost p	er ton of the exp	perimental	steel i	s 40 rub	les below	that of	KDLVT	steel,	and that the	
4.1	mechanica	al treatment of the street, R. S. Zh	the former igalenkova	is cons	iderably Dubova	y easier ti and L. i	han that D. Smir	of the l nova. o	atter. f TsZL	T. G. of Bezhitsl	c :
7	Steel Mill	, took part in de	etermining	the me	chanica	l (propertic	es of the	steel	Orig.	art. has:	
ļ	2 figures	and 3 tables.		55		71/35			44		
	SUB COD	E: 11, 13 / SUI	BM DATE:	none					75	5	
									•		
		M									
	C1 .	2 1/2									
	Card										

SERPIK, N. M., Cand. Tech. Sci. (diss) "Abrasive Wearing Capacity of Steels and Cast Irons in Connection with their Composition, Micro-structure and Thermal Processing," Moscow, 1961, 16 pp.

(Moscow Steel Inst.) (KL Supp 12-61, 274).

SVERDLOV, Veniamin Il'ich; MEDVINSKIY, I.Ye., inzh., retsenzent; LIPNITSKIY, A.M., red.; SERPIKOV, B.M., inzh., red.; LEYKINA, T.L., red. izd-va; PETERSON, M.M., tekhn. red.

[Mechanization of operations for the pouring of metal into molds, the shakeout and the cleaning of castings] Mekhanizatsiia rabot po zelivke form, Whike i ochistke lit'ia. Pod obshchei red. A.M.Lipnitskogo. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, nitskogo. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 66 p. (Bibliotechka liteishchika, no.10) (MIRA 14:9) (Foundries-Equipment and supplies)

SERPIKOV, S. K.

Cand Agr Sci - (diss) "Soils of the northeastern part of the Alma-Atinskaya Oblast of the Kazakh SSR (in the boundaries of the Atinskaya Oblast of the Kazakh SSR (in the boundaries of the former Taldy-Kurganskaya Oblast)." Alma-Ata, 1961. 20 pp; (Ministry of Higher and Secondary Specialist Education Kazakh SSR, Kazakh State Agricultural Inst); 200 copies; price not given; (KL, 6-61 sup, 232)

THE REPORT OF THE PROPERTY OF

SOKOLOV, S.I.; ASSING, I.A.; KURMANGALIYEV, A.B.; SERPIKOV, S.K.;
BEZSONOV, A.I., glav. red.; BOROVSKIY, V.M., red.; SOKOLOV,
A.A., red.; STOROZHENKO, D.M., red.; USPANOV, U.U., red.;
SHEVCHUK, T.I., red.; ROROKINA, Z.P., tekhm. red.

[Soils of the Kazakh S.S.R. in 16 volumes] Pochvy Kazakhskoi SSR v 16 v puskakh. Alma-Ata, Izd-vo Akad. nauk Kazakhskoi SSR. Vol.4. [Alma-Ata Province] Pochvy Alma-Atinskoi oblasti. 1962. 422 p. (MIRA 15:4)

1. Akademiya nauk kazakhshay SSR, Alma-Ata. Institut pochvove-, deniya.

(Alma-Ata Province--Soils)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548130010-8"

SERPIKOVA, L.A.; MININA, R.M., prof.

Treatment of children with the aftereffects of poliomyelitis at the "Belorussiia" Sanatorium. Zdrav. Bel. 6 no.11:25-27 N '60.

(MIRA 13:12)

1. Glavnyy vrach sanarotiya "Belorussiya" (for Serpikova).
2. Direktor Nauchno-issledovatel'skogo instituta travmatologii i ortopedii (for Minina).

(POLIOMYELITIS)

MAL'NEV, A.F.; KREMENCHUGSKIY, L.S.; BEREZKO, B.N.; SHEVTSOV, L.N.;

BOGDEVICH, A.G.; KIRILLOV, G.M.; CHASHECHNIKOVA, I.T.;

YARMOLENKO, N.A.; OFENGENDEN, R.G.; SERMAN, V.Z.;

DALYUK, Yu.A.; BEREZIN, F.N.; KONENKO, L.D.; SHALEYKO, M.A.;

SHEVCHENKO, Yu.S.; STOLYAROV, V.A.; KIRILLOV, G.M.; BOGDEVICH, S.F.;

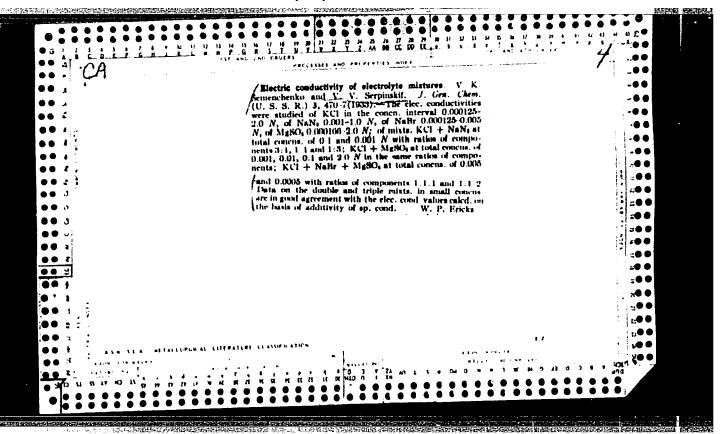
LYSENKO, V.T.; BRASHKIN, N.A.; SKRIPNIK, Yu.A.; GRFSHCHENKO, Ye.V.;

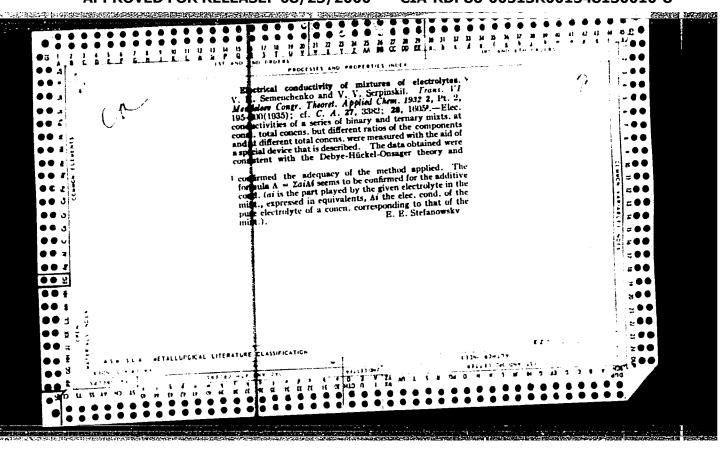
TUZ, R.M.; SERPILIN, K.L.; GAPCHENKO, L.M.

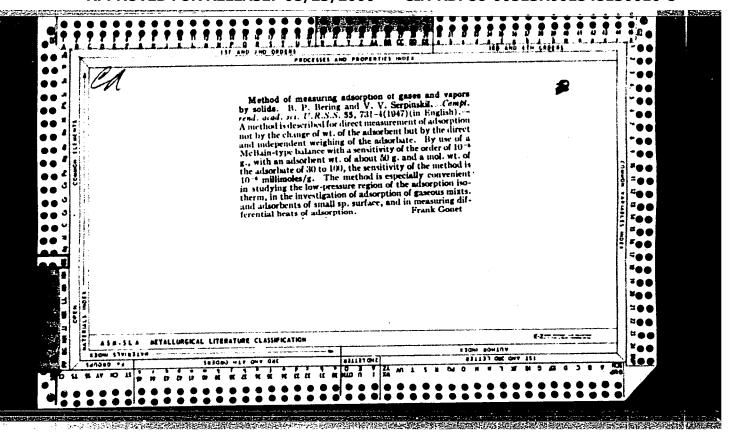
Abstracts of completed research works. Avtom. i prib. no.3:90-91 J1-S '62. (MIRA 16:2)

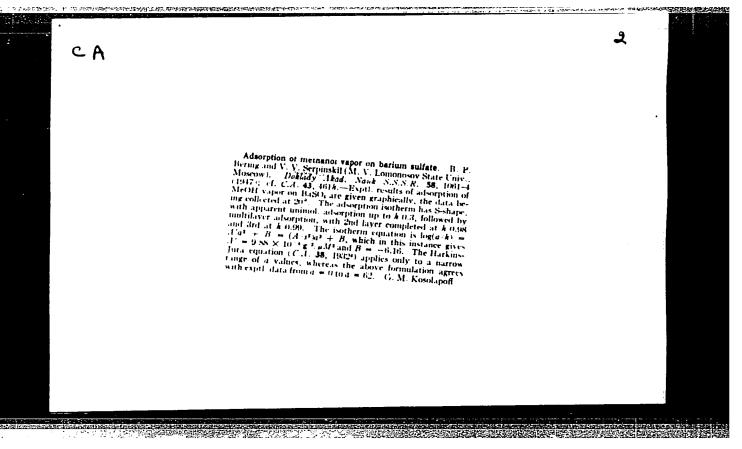
1. Institut fiziki AN UkrSSR (for all except Skripnik, Greshchenko, Tuz. Serpilin, Gapchenko). 2. Kiyevskiy politekhnicheskiy institut (for Skripnik, Greshchenko, Tuz, Serpilin, Gapchenko).

(Research)









|--|

SERPINSKIY, V.V		
The adsorpti	ion of vapors on crystalline adsorbents.	
H. P. Bering a Kalaliza 7, Stat	ad V. V. Serpinskii. Problemy Kinetiki i listicheskie Vauleilija v Geterogen. Sistemakh,	
383-409(1949);	cr. C.A. 43, 4017.—Data are given for the	
383–409(1949); adsorption of C obtained previc H <sub>7</sub> OH is accomp	cr. C.M. 43, 4617.—Data are given for the C.H.OH on BaSO, and compared with data onsly for MeOH. The adsorption of Ciponnied by greater energy effects than is that	
383–409(1940); adsorption of C obtained previc H <sub>2</sub> OH is accomp of McOH. The increasing surfac CH <sub>2</sub> OH.	ion of vapors on crystalline adsorbents, and V. V. Serpinskii. Problemy Kinetiki i histocheskie Tavientskii. Problemy Kinetiki i histocheskii. Problemy Kinetiki i histocheskie Tavientskii. Problemy Kinetiki i histocheskii. Probl	, , , ,
383-409(1940); adsorption of C obtained previc H <sub>2</sub> OH is accomp of McOH. Th increasing surfac CH <sub>2</sub> OH.	C. C.1. 43, 4617.—Data are given for the J.H.OH on BaSO, and compared with data onsly for MeOH. The adsorption of Cpanied by greater energy effects than is that the decrease in the adsorption potential with ce filling is greater for C.H.OH than it is for J. Rovtar Leach	
383-409(1940); adsorption of C obtained previc H <sub>2</sub> OH is accomp of MeOH. Th increasing surfac CH <sub>2</sub> OH.	Cr. C.1. 43, 4617.—Data are given for the 2.H <sub>1</sub> OH on BaSO, and compared with data onsly for MeOH. The adsorption of C <sub>1</sub> -panied by greater energy effects than is that the decrease in the adsorption potential with ce filling is greater for C <sub>1</sub> H <sub>2</sub> OH than it is for J. Rovtar Leach	
383-409(1940); adsorption of C obtained previc H <sub>2</sub> OH is accomp of MeOH. Th increasing surfac CH <sub>2</sub> OH.	C. C.J. 43, 401.—Data are given for the J.H.OH on BaSO, and compared with data onsly for MeOH. The adsorption of Capanied by greater energy effects than is that he decrease in the adsorption potential with ce filling is greater for CaH,OH than it is for J. Rovtar Leach	

SERPINSKIY, V. V.

USSR/Chemistry - Adsorption

11 Jul 51

"Monomolecular Adsorption on Uniform Surfaces,"
B. P. Bering, V. V. Serpinskiy, Inst of Phys Chem,
Acad Sci USSR; Moscow State U imeni M. V. Lomonosov

"Dok Ak Nauk SSSR" Vol LXXIX, No 2, pp 273-276

Studies the effect of the mutual interaction of adsorbed mols. Derives 2 eqs, one for a localized layer and one for a nonlocalized layer of mols adsorbed on a uniform surface. Plots the adsorption isotherms corresponding to them.

21419

ADJOHPTICH

A new method for investigating the adsorption of gases and vapors. Trudy Inst.fiz, khimii All GSSR no. 1, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548130010-8"

SERTING, F. T., LINGTH CALLY, T. V.

Adsorption

Adsorption from a gas mixture. 1. Adsorption of ethylene and carbon dioxide by activated carbon. Zhur. fiz. khim. 26 nc. 2. '52.

Monthly List of Russian Accessions, Library of Congress, September 1952. Unclassified.

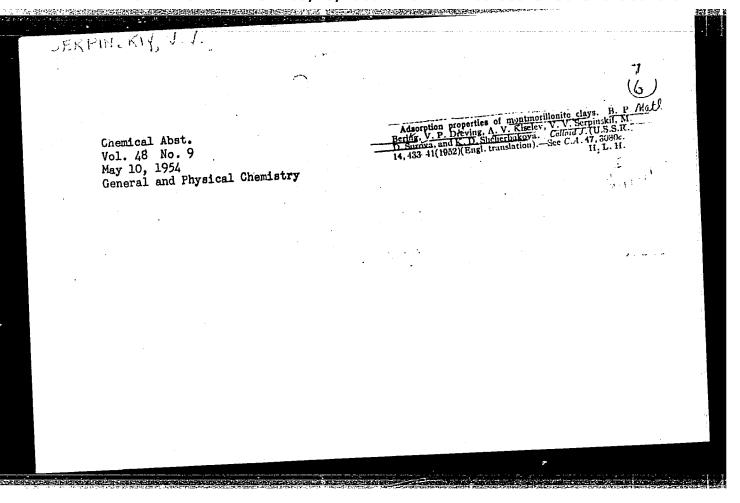
t time to profit to the	K1{, J, J					
		•				-
	CATALY Chemical At Vol. 48 No May 10, 199	ost. o. 9	Adsorption of mixture and propylene on active Seromaki. Bull. Acad 1952, 877-84 (Engl. trans	s of gas. II. Adsor carbon. B.P. B. Sci. U.S.S.R., I dation).—See C.A.	ption of ethylene Chris	in.
	delios de	•			9-2-54	•
		The second secon	The second secon			
<b></b>						

SERPINOKIY,

British Abst. AI Aug. 1953 Physical Properties and Molecular Structure of Solutions, Etc.

Advantion of gas mixtures. II. Simultaneous absorption of clivions and propylene on active carbon. B. P. Beling and V. V. berjorkia. 17 westra. 1952, 997—1007).—The adsorption of C.H. and propylene on active C is determined, using the same method and propylene on active C as in Part I (J. phys. Chem., USSR, 1952, 28, 253—The adsorption of pure gases and their mixtures is measured at 7° and 25° in the total pressure range 0—350 mm. From the study of the three-dimensional adsorption models (where two ordinates represent partial pressures of gases and the third one the adsorption expressed in millimoles per g. of C) it is seen that the adsorption of propylene is only slightly decreased in pressure of even large amounts of C.H., the slope of the adsorption isotherm meaning unchanged. In contrast, the adsorption of C.H. is approached the adsorption isotherm becomes already linear when I stial pressure of propylene reaches 50 mm. Expressions for the alternal heat of adsorption of the binary gas mixture and far the differential heats of adsorption of each component are derived and the differential heats are calculated and plotted as a function of adsorption. The presence of propylene lowers considerably the differential heat of adsorption of C.H., whereas that of prepylene is virtually unaffected by the presence and partial pressure of C.H., it follows, that the mol. of propylene are adjusted on the portions of surface of high adsorption energy.

S. K. Lachowicz.—S. A. A. S. S. S. K. Lachowicz.—S. S. K. Lach



SFRPI	
on activated carbon at 25.40 within wide range of concus at pressures of equil gas phase between 0-300 mm Hg. Discusses thermodynamic relationships 0-300 mm Hg. Discusses thermodynamic relationships of each component; which govern the adsorption of each component; which govern the adsorption of each component; which govern the adsorption of gas satisfied by any valid theory of adsorption of gas satisfied by any valid theory of adsorption of gas satisfied by any valid theory of adsorption of gas satisfied by any valid theory of adsorption of each of selectivity on compn of equil gas phase provided of selectivity on compn of equil gas phase provided that total pressure is const; that this coeff, calcd total pressure is const; that this coeff, calcd total pressure. Shows inapplicability of theory advanced by S. Z. Roginskiy and O. M. Todes to system and a subject of the system of the study.	
USSR/Chemistry - Adsorption  "Adsorption of Gas Mixtures. I. Adsorption of "Adsorption of Gas Mixtures. I. Adsorption of Ethylene and Carbon Dioxide on Activated Carbon," B. P. Bering, V. V. Serpinskiy, Inst of Phys Chem, Acad Sci USSR; Moscow State U imeni M. V. Lomonosov Acad Sci USSR; Moscow Sci USSR; Moscow Sci USSR; Moscow	

USSR/Chemistry - Adsorption

Aug 52

"The Simultaneous Adsorption of Ethylene and Propylene on Activated Carbon," B. P. Bering and V. V.

Serpinskiy, Inst of Phys Chem, Acad Sci USSR; Mos-

cow State U

"DAN SSSR" Vol 85, No 5, pp 1065-1068

Propylene, adsorbing on the most active parts of a tion of propylene remains practically unchanged. of ethylene, while the differential heat of adsorpgreatly lowers the differential heat of adsorption The presence of propylene in the adsorption phase

23**9121** 

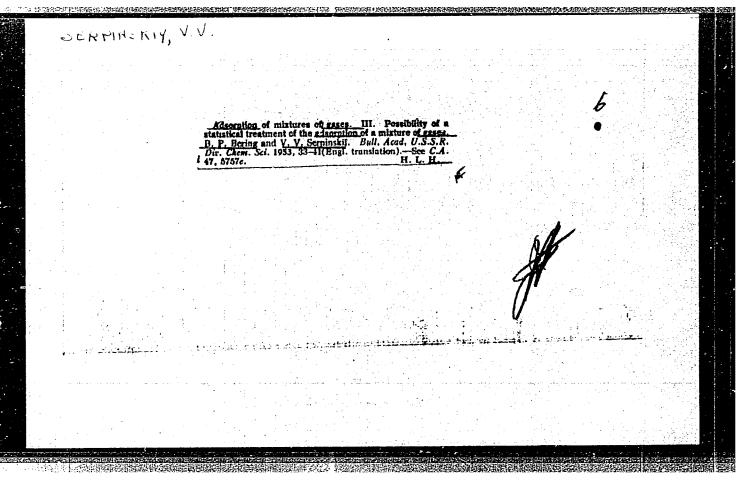
lene mols. 27 May 52.

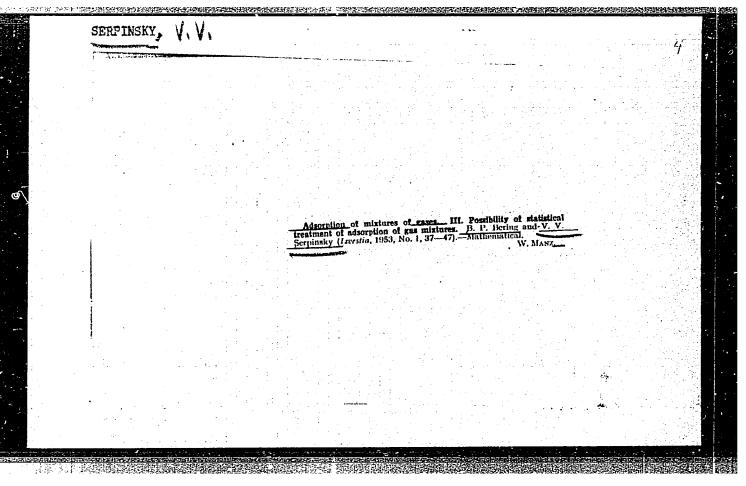
nonuniform surface, blocks the adsorption of ethy-Submitted by Acad M. M. Dubinin

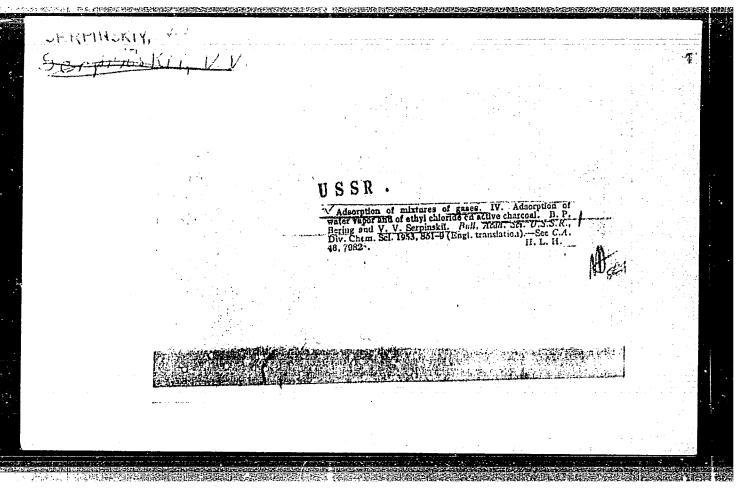
APPROVED FOR RELEASE: 08/23/2000

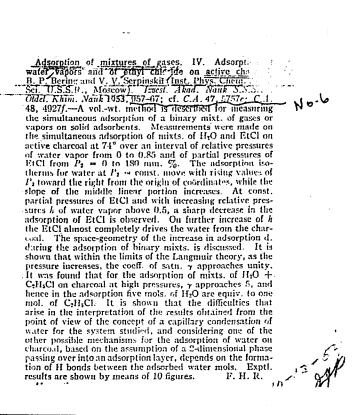
239T21

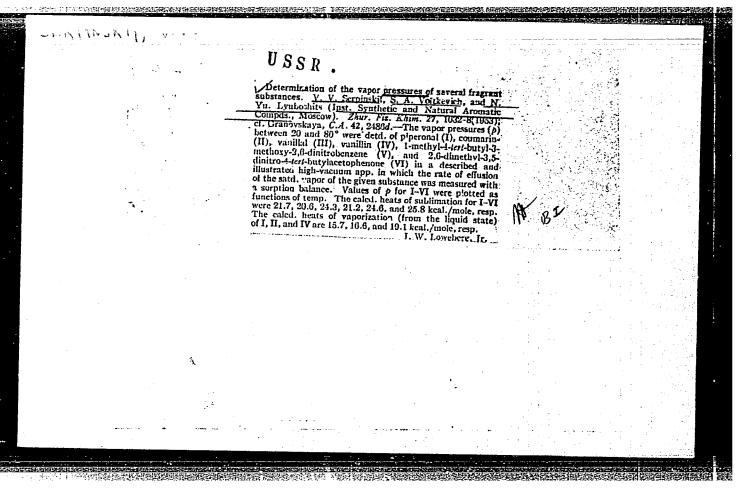
CIA-RDP86-00513R001548130010-8"











BERING, B.P.; SERPINSKIY, V.V.; DUBININ, M.M., akademik.

Volumetric-gravimetric method for measuring the adserption of gaseous mixtures. Dokl.AN SSSR 90 no.5:811-814 Je '53. (MLRA 6:5)

- 1. Institut fizicheskoy khimii Akademii nauk SSSR (fer Bering, Serpinskiy).
- 2. Akademiya nauk SSSR (for Dubinin). (Gases) (Adsorption)

Determination of the saturated vapor pressure of several fragrant substances. Trudy VNIISNDV no.2:103-113 '54. (MLRA 19:7)

(Gdorcus substances) (Vapor pressure)

#### CIA-RDP86-00513R001548130010-8 "APPROVED FOR RELEASE: 08/23/2000

USSR/Chemistry

Card 1/1

Authors Serpinskiy, V. V., Voytkevich, S. A., and Lyuboshits, N. Yu. 

Title : The pressure of saturated vapor of certain odoriferous substances. Part

Periodical : Zhur. Fiz. Khim., 28, Ed. 5, 810 - 813, May 1954

Abstract The pressures of saturated vapor of benzyl acetate, cinnamic alcohol, phen-

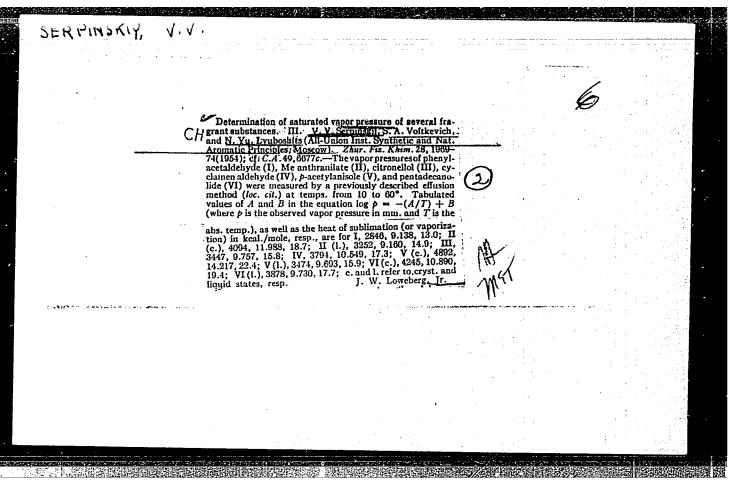
ylethyl alcohol, alpha-terpineol and indole were investigated by the effusion method at 10 - 55°. It was shown that the values obtained at the investigated temperatures could be quite accurately expressed by the Clausius-Clapeyron equation and integrated under the assumption of a constant concealed heat of evaporation (sublimation). Nine references: 4-

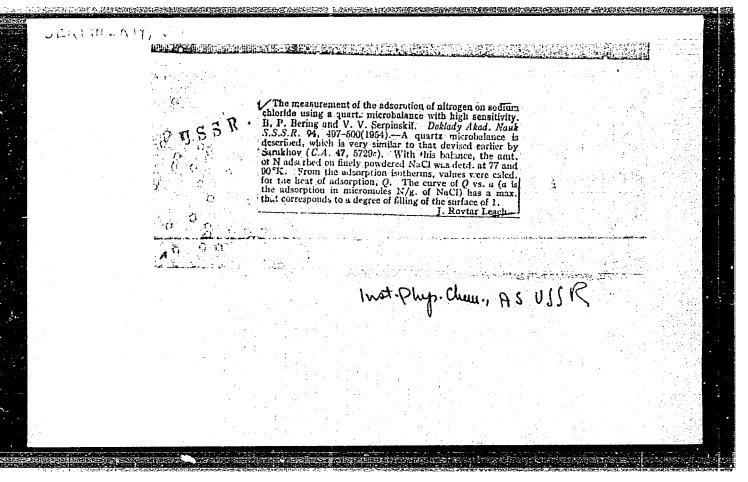
USSR, 2-German since 1923 - 1928, 2-English, 1-USA. Table, graphs.

Institution : All-Union Scient. - Res. Institute of Synthetic and Natural Odiferous

Substances, Moscow.

Submitted : July 13, 1953





#### CIA-RDP86-00513R001548130010-8 "APPROVED FOR RELEASE: 08/23/2000

コセペカノクラゲノダ、 USSR/ Physics - Physical chemistry

Card 1/1

Pub. 22 - 39/63

Authors

: Dubinin, M.M., Academician; and Serpinskiy, V.V.

Title

! Equation of isotherm of water vapor adsorption on active carbons

Periodical : Dok. AN SSSR 99/6, 1033-1036, Dec 21, 1954

Abstract

In order to learn more about the sorption nature of water vapors on active carbons the authors investigated the isotherm and sorption heats on nonporous carbon adsorbents - thermal treated carbon black - the surface chemical nature of which is not much different from the surface of active C. zones where the isotherms show a sharp rise. The complexity of the sorption process for water vapors in the entire range of equilibrium relative pressures makes a simple approach to a quantitative description of the complete sorption branch of the isotherm less perspective. It was determined that the porous structure of C does not affect adsorption of water vapors. Ten references: 2-USA and 8-USSR (1930-1954). Graph.

Institution: Academy of Sciences USSR, Institute of Physical Chemistry

Submitted:

October 20, 1954

AF/015)/

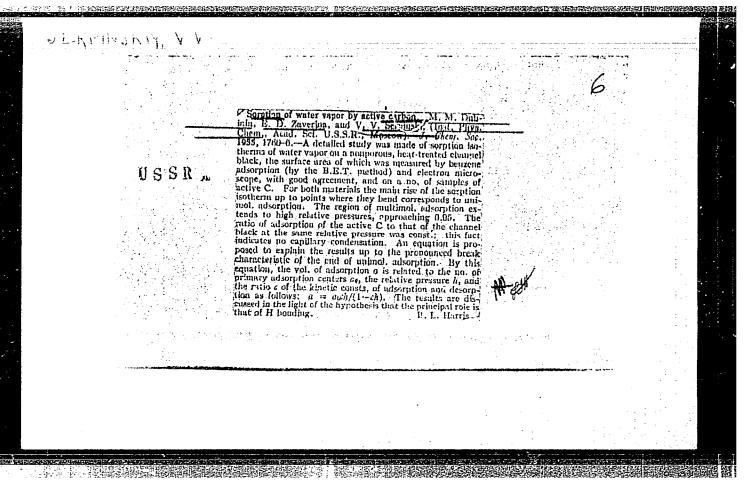
Throad is Island Bear REVIEW

AIJ 14.1 - S

Sind Sall, 7. (. AND B. F. BERING, (Institute of rhysical phemisrty, Academy of Sciences, OSSa).

IZM. MATTS ADSCRINGIT MARCY AZOTA MA KRISTAMMAN. KHLDGISTOON MATRIYA PRI 10.0550. I KVMRIGAVIXI VESOV VYSOROV MUVS.VI.M. MOSTI (Measurement of the adsorption of nitrogen varors on sodium chloride crystal with a highly-sensitive quartz balance). In Problemy kinetiki i kataliza (Froblems of Kinetics and Datalysis), vol. 8. Izdatel'stvo Akademii Nauk SSSR, 1955. Section 7: New experimental methods. p. 243 - 247.

An illustration and description of a quartz microbalance leveloped in the Laboratory for Sorption Processes of the Institute for Physical Chemistry of the meademy of Sciences, U.S.S.R. is given in Fig. 1 (p. 2hh). Adsorption of nitrogen was determined at 77 and 90°K on a highly dispersed haCl preparation with a surface equal to 3000 cm². The adsorption istherms for N2 on mail at 77 and 90°K are shown in Fig. 2 (p. 2h6). Four diagrams, 8 references, 3 mussian (1948-1955).



BERING, B.P.; SERPINSKIY, V.V.

Measuring nitrogen-vapor adsorption on sodium chloride crystals by means of highly sensitive quartz scales. Probl.kin.i kat. 8:243-247 '55. (MLRA 9:5)

 Institut fizicheskoy khimii AN SSSR. (Adsorption) (Nitrogen) (Sodium chloride)

SERPINSKIY, V.V.: VOYTKEVICH, S.A.; LYUBOSHITS, N.Yu.

Determination of saturated vapor pressure for certain aromatic principles. Part 4. Zhur.fiz.khim. 29 no.4:653-657 Ap '55. (MIRA 8:8)

1. Institut sinteticheskikh i natural'nykh dushistykh veshchestv, Moskva. (Vapor pressure) (Essences and essential oils)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548130010-8"

。 1985年,1987年,1987年,1987年,1987年,1987年,1987年,1987年,1987年,1987年,1987年,1987年,1987年,1987年,1987年,1987年,1987年,1987年,19

BERKENGRYM, 3.M.; SEMENOV, N.N.; SERPINSKIY, V.V.

Nikolai Aleksandrovich Shilev; en the 25th anniversary ef his death. Zhur.fiz.khim.29 ne.9:1730-1735 S '55. (MLRA 9:4)

(Shilev, Nikolai Aleksandrevich, 1872-1930)

USSR/ Chemistry - Physical chemistry

Card 1/1 Pub. 147 - 21/35

Authors Serpinskiy, V. V.; Voytkevich, S. A.; and Lyuboshits, N. Yu.

Title Determination of the saturated vapor pressure of certain aromatic principles

Periodical : Zhur. fiz. khim. 30/1, 177-183, Jan 1956

Abstract ! The saturated vapor pressures of p-methylacetophenone, gamma-phenylpropyl alcohol, citral, d- and l-linalyl acetate, musk-xylene and benzophenone were measured at clost to room temperatures. All aromatic principles but benzophenone were investigated in liquid state only. Benzophenone was studied in liquid and crystalline states. It was found that the vapor pressures of dand 1-linalylacetate, obtained from different raw materials, were practically identical. The results obtained from the other aromatic principles are shown in tables. Twenty-seven references: 11 USSR, 5 Germ., 1 Eng., 1 Swiss,

1 USA, 1 Danish (1925-1955). Tables; graphs.

Institution: Inst. of Synthetic and Natural Aromatic Principles, Moscow

Submitted: June 16, 1955

SEAFINDALT, VIV.

62-1-20/21

AUTHORS:

Bering, B. P., and Serpinskiy, V. V.

TITLE:

Letter to the Editor (Pis'ma redaktoru)

PERIODICAL:

Izvestiya Akademii Nauk, SSSR, Otdeleniye Khimicheskikh Nauk, 1957,

No. 1, page 125 (U.S.S.R.)

ABSTRACT:

The letter to the editor states that certain differential heats of adsorption Q can be measured calorimetrically or calculated thermodynamically

in accordance with the Clausius-Clapeyron equation from adsorption isosteres. The purpose of this letter is to show that from a certain conditions (2) it is possible to derive, in a strictly thermodynamic way, an equation allowing one to calculate Q - Q in accordance with one adsorp-

Card 1/2

an equation allowing one to calculate the tion isotherm. The form of the thermal equation is described.

Letter to the Editor

62-1-20/21

ASSOCIATION:

Academy of Sciences of the USSR, Institute of Physical Chemistry

PRESENTED BY:

SUBMITTED:

December 18, 1956

AVAILABLE:

Library of Congress

Card 2/2

USSR/Physical Chemistry - Surface Phenomena, Adsorption, Chromatography, Ion Interchange,

B-13

Provincia de la companya de la comp

Abst Jour: Referat. Zhurnal Khimiya, No 2, 1958, 4014.

Authror: B. P. Bering, M. M. Dubinin, Ye. G. Zhukovskaya, A. I. Sakharov,

V. V. Serpinskiy.

Inst:

Title: Study of Porous Structure of Solid Bodies by Sorption Methods.

III. Gravimetric Methods of Measuring Sorption and Desorption

Isotherms of Nitrogen and Benzene Vapors.

Orig Put: Zh. fiz. khimii, 1957, 31, No 3, 712-716.

Abstract: With a view to select and substantiate the most rational methods

of measuring isotherms of vapor sorption (IS) on solid bodies, an improved vacuum installation was constructed; this installation perwits reliably to take down the IS of N2 at a low temperature and the IS of benzene vapors at the room temperature by the gravimetric method. The IS-s determined with the described

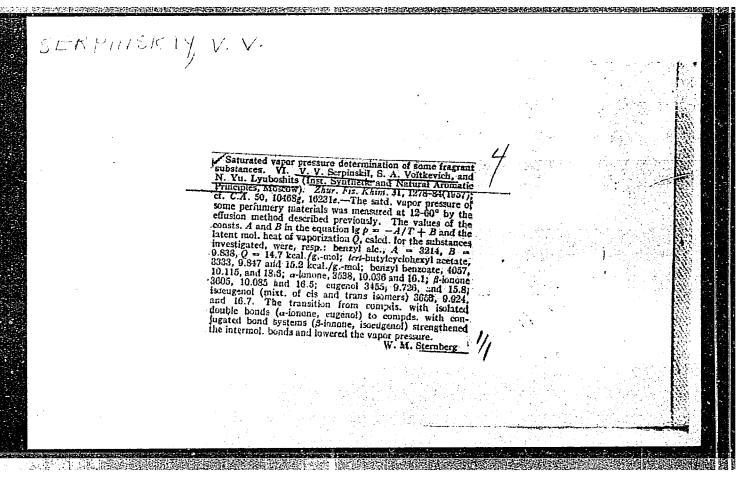
USSR/Physical Chemistry - Surface Phenomena, Adsorption, Chromatography, Ion Interchange.

B-13

Abs Joru: Referat. Zhurnal Khimiya, No 2, 1958, 4014.

installation for N2at  $-195^{\circ}$  on silica gel and for benzene vapors at 20° on activated carbon coincided practically with corresponding IS-s taken down by the volumetric (N2) or gravimetric methods by other authors on other installations. (See

part II in RZhKhim, 1957, 26362.)



#### CIA-RDP86-00513R001548130010-8 "APPROVED FOR RELEASE: 08/23/2000 NI TORIAL STANDARD RECEIRE STANDARD STA

USSR/Physical Chemistry - Surface Phenomena, Adsorption, Chromatography, Ion Interchange.

B-13

Abs Jour: Referat. Zhurnal Khimiya, No 2, 1958, 3995.

Author : B.N. Vasil'yev, B.P. Bering, M.M. Dubinin, V.V. Serpinskiy.

: Academy of Sciences of USSR.

: Study of Adsorption Under High Pressure. Title

Orig Pub: Dokl. AN SSSR, 1957, 114, No 1, 131-134.

Abstract: The CO2 adsorption on two silica gel specimens in the range from -85 to +400 and under the pressure of from 0 to 85 atm was studied using the instrument described earlier (RZhKhim, 1957, 74788). The adsorption hysteresis loop is observed only in the range from -60 to -20. The isotherms of -30 and -50 bring to a not coinciding distribution of pore volumes according to their radii. The total substance content a differs noticeably under high pressures from Gibbs' adsorption. It is shown that the mean density  $\hat{\gamma}_a$  of CO2 in the adsorbed state

: 1/2 Card

AUTHORS:

Bering, B. P. and Serpinskiy, V. V.

20-114-6-32/54

TITLE:

Calculation of the Heat and Entropy of Adsorption According to a Single Adsorption Isotherm (Vychisleniye teploty i

entropii adsorbtsii po odnoy izoterme adsorbtsii)

PERIODICAL:

Doklady AN SSSR, 1957, Vol. 114, Nr 6, pp. 1254-1256 (USSR)

ABSTRACT:

Either direct calorimetric measurements or thermodynamic calculations are used for determining the values of the heat and entropy of sorption in dependence on the quantity of the sorbed substance. The calculations are based on an empirical determination of the sorption-temperature coefficient.

Although both methods are fundamentally clear and do not cause any doubt, they are very toilsome and make great demands on the quality of the experiment. The authors show under which conditions these important thermodynamic characteristics can

be calculated according to one isotherm, as mentioned in the title. The extensive test material confirms the basic postulate of Polyani: The so-called adsorption potential  $\mathcal{E} = -$  RT (n h (where h signifies the relative pressure) is, at a constant value of the filled adsorption-volume  $\mathcal{F} = \mathbf{aV}$ 

Card 1/4

1000年1月1日 - 1000日 - 1

( a- adsorption, V - molar volume of the adsorbate),

Calculation of the Heat and Entropy of Adsorption According to 20-114-6-32/54 a Single Adsorption Isotherm

calculations from the adsorption-isostheres. Examples for this are given (figures 1, 2). Equation (7) is only completely valid when condition (1) is satisfied. Nevertheless it may be expected that equation (7) will in many other cases also yield a good agreement with the test even when condition (1) is not satisfied. Actually  $Q = -T\Delta S + E + \lambda$  (10), and from the equation  $7a \left[q = (\alpha - \xi)RT^2 (\partial \ell n h \partial \ell n a)_{\pi} - RT \ell nh\right]$ follows that every deviation from condition (1) only influences the term ToS. Therefore considerable values of & will also only bring about a small error of the Q-value, when the specific gravity of the term TAS in equation (lo) is not high. Theoretically it is, however, completely undue to disregard the term  $T \triangle S$ . A corresponding analytical form of the dependence of the differential adsorption-heat on a or on h may be obtained by the combination of the analytical expression for the equation of the adsorption isotherm with equation (7). The method of analysis of the adsorption problems resulting from this may become very promising. There are 2 figures and 4 references, 1 of which is Slavic.

Card 3/4

Results of determining the saturated vapor pressures of 36 odorous substances. Trudy VNIISHDV no.4:125-130 '58.

(Basences and essential oils)

(Vapor pressure)

SERPINSKIY, V. V.; LUK'YANOVICH, V. M.; RADUSHK-VICH, L. V.; TSITSISHVILI, J. V.; YENNG-LENKO, N. F.; DUBININ, M. M.; BERING, B. P.;

"The adsorption from vapors and Liquids."

report presented at the Fourth All-Union Conference on Colloidal Chemistry, Thillis, Georgian SSE, 12-12 May 1952 (Koll zhur. 20,5, p.677-9, '58, Taubman, A.B)

5 (4) AUTHORS:

Bering, B. P., Dubinin, M. M.,

SOV/62-59-6-5/36

Serpinskiy, V. V.

TITLE:

Calculation of the Differential Heats of Vapour Adsorption on Active Coal (Vychisleniye differentsial nykh teplot adsorbtsii

er und her beschichte eine der der beschichte der b

parov na aktivnykh uglyakh)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,

1959, Nr 6, pp 981-988 (USSR)

ABSTRACT:

Besides applying other methods, the differential adsorption heat may thermodynamically be calculated by means of a model of the adsorption interaction and the theory of molecular forces. In a previous paper by the author (Ref 1) it was shown that according to the potential theory of adsorption the differential heat of an adsorption isotherm may be computed by the following equation:

 $q = Q - \lambda = \alpha RT^2 \left(\frac{\partial \ln h}{\partial \ln a}\right)_T - RT \ln h$  (1). Here Q denotes the total,

and q the pure differential adsorption heat, A the latent vaporization heat, & the thermal coefficient of the spatial extension of the adsorbed substance, a the adsorption, and h=p/p the relative pressure. The characteristic curves of the volume distribution for inhomogeneous adsorption surfaces of different

Card 1/3

Calculation of the Differential Heats of Vapour Adsorption on Active Coal

SOV/62-59-6-5/36

type, in the present case active coal, on the adsorption range are known from publications. These curves lead to equations for the adsorption isotherms of different structural types.

(Equations 4 and 5)  $a = \frac{\text{Wo}}{v} e^{-\frac{BT^2}{\hat{\beta}^2} (\lg h)^2}$  (I) (4)

 $a = \frac{\text{Wo'}}{v} e^{\frac{AT}{\beta} \lg h}$  (II) (5). Here Wo (Wo') B (A) denote structural

characteristics of the adsorbents,  $\beta$  the affinity coefficient, and v the mole volume. Based upon the equations 1 and 4, or 1 and 5, a term for the differential adsorption heat of vapour of different substances on active coal may be set up. For the purpose of facilitating the computation, this equation was established in variable  $\theta$  (of the filling degree of the micropores). By following this equation the differential adsorption heat at different numerical values  $\theta$  was computed for a number of substances on a standard adsorbent at different temperatures. Active coal of the type (I) served as standard adsorbent. The

Card 2/3

Calculation of the Differential Heats of Vapour Adsorption on Active Coal

sov/62-59-6-5/36

values obtained for q are given in a table. A figure shows the dependence of Q on & for normal heptane, hexane, and pentane. In an analogous manner the equation holding for the differential adsorption heat on coal of the second structural type was derived. For the first type computations of the adsorption heats of different hydrocarbons were carried out (Table 2). For this computation it was necessary for the two structural characteristics Wo, B (Wor, A) of the adsorbent, tabular values on the pressure of the saturated vapour, its mole volume, its parachor, and the thermal coefficient of the volume distribution of the substance to be adsorbed to be known. Finally, an approximative calculation method for the differential heat of the alkanes on adsorbents of the first structural type was worked out. There are 1 figure, 2 tables, and 12 references, 10 of which are Soviet.

ASSOCIATION: Institut fizicheskoy khimii Akademii nauk SSSR (Institute of

Physical Chemistry of the Academy of Sciences, USSR)

SUBMITTED:

October 24, 1957

Card 3/3

CHRINGORIESCON MERCHEC VIELEEL AND LEUR EN DE DE CERTE DE PROCESSE DE LE CONTROL DE LE

5 (4) AUTHORS:

Bering, B. P., Serpinskiy, V. V.

SOV/62-59-7-6/38

TITLE:

Adsorption of Gas Mixtures (Adsorbtsiya smesi gazov).

Communication 5. Adsorption Balance in the System Water - Ethyl Chloride - Activated Carbon (Soobshcheniye 5. Adsorbtsionnoye ravnovesiye v sisteme voda - khloristyy etil - aktivnyy ugol')

PERIODICAL:

Investiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,

1959, Nr 7, pp 1186-1195 (USSR)

ABSTRACT:

In this paper the experimental data on the adsorption of the gases mentioned in the title on activated carbon of two different types are compared (the type I on which the investigations were carried out already in a previous paper and the type II had a

different porosity) and conclusions are drawn on the

characteristic of the adsorption balance. For the investigations the adsorption isotherm of water and ethyl chloride and of the mixture of both was recorded volumo-gravinetrically at 750

in a new apparatus (Ref 1). The obtained data of the individual substances are given in tables 1 and 2 and in figures 1 and 2. The sections of the thermodynamic surfaces were determined from the data obtained and the adsorption balance from the constancy of different thermodynamic parameters. All sections of carbon II

Card 1/3

Adsorption of Gas Mixtures. Communication 5. Adsorption SOV/62-59-7-6/38 Balance in the System Water - Ethyl Chloride - Activated Carbon

obtained were analogous to the corresponding one of carbon I. From the great number of the isotherms obtained those were regarded in which the adsorption of one component is constant. In figure 3 the adsorption isotherms of water are described accordingly. The curves are represented according to the formula  $c = c_0 (1-ka_2) (1)$  (where  $a_2$  is the value of the adsorption of ethyl chloride; c is a parameter for the individual water isotherm at constant value  $a_0$ ). The set of curves of the adsorption isotherms for ethyl chloride at constant a1 is represented in figure 2. The following investigation is carried out by means of the latter set of curves according to the conception of the potential adsorption theory of Dubinin (Refs 2, 4, 6). The parameters  $W_{o}$  (W) and B of the equation (4) of Dubinin, Zaverina and Radushkevich (Ref 4) were determined (Table 4) characterizing the adsorbent and represented in dependence of  $\alpha$  (Fig 6). Investigations revealed that the adsorption of the ethyl chloride at constant a may be represented

Card 2/3

Adsorption of Gas Mixtures. Communication 5. 30V/62-59-7-6/38 Adsorption Balance in the System Water - Ethyl Chloride - Activated Carbon

by the mentioned equation. The density of the water being adsorbed in the micropores is considerably higher than the density otherwise at the same temperatures. The transition to the sorption in the field of the capillary condensation is characterized by a decrease of the density of the water. The fusion of the two mentioned equations (for  $a_1 = \text{const}$  and for  $a_2 = \text{const}$ ) describes the adsorption of the mixture of both components on the activated carbon by means of the parameter of the individual adsorption isotherms of both substances if also the empiric parameter on the adsorption of the water  $a_1 \leq 2$  mM/g is given. Finally the authors thank M. M. Dubinin for his interest in this paper and for valuable discussions held together. There are 6 figures, 5 tables, and 6 Soviet references.

ASSOCIATION:

Institut fizicheskoy khimii Akademii nauk SSSR (Institute of Physical Chemistry of the Academy of Sciences, USSR)

SUBMITTED:

November 21, 1957

Card 3/3

#### "APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001548130010-8

AUTHORS:

Bering, B. P., Dubinin, M. M., Academician, S/020/60/131/04/041/073

Zhukovskaya, Ye. G., Serpinskiy, V. V.

B004/B125

TITLE:

Molecular Sieves as Adsorbents of the First Structural Type

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 131, Nr 4, pp 865 - 867 (USSR)

TEXT: The authors divide the porous adsorbents into structural types according to the size of their pores. Second structural type: silica gel with large pores and active coal with large pores. First structural type: silica gel with fine pores, active coal with fine pores, and zeolite. They tested whether zeolite belongs to the first structural type by means of the potential theory of adsorption developed in their institute. They present the equation of the adsorption isotherm (1), which establishes a linear relation between the logarithm of the adsorption a and the square of the logarithm of the relative pressure  $h = p/p_s$ . The isotherms of nitrogen and benzene in fine-pored silica gels (Ref 4)

may be determined in a wide temperature range by determining the constants W and B of the equation (1) and the affinity  $\beta$  of the molecular volume v and the partial pressure p of the saturated vapor. For the molecular sieve "Linde 5A" the ex-

periments were carried out with nitrogen at -195°. Figure 1 shows the results of

Card 1/2

Molecular Sieves as Adsorbents of the First Structural S/020/60/131/04/041/073
Type B004/B125

the experiments. The curves of the adsorption of nitrogen and argon on chabazite according to reference 6 were added for comparison. The validity of the equation (1) was tested on the basis of the determined constants by calculation of the adsorption isotherms for chloromethyl on chabazite at 0, 50, and 100°. Figure 2 shows the result. The experimental data of R. M. Barrer and D. W. Brook (Ref 9) is entered for comparison. At 50° there is good agreement between the data calculated by the authors and the experimental data from reference 9. At 100° the experimental data is somewhat lower, at 0° somewhat higher; but the deviation is at most only 5%. The authors arrive at the conclusion that the equation (1) is applicable to the study of the adsorption on zeolite and that the molecular sieves may be considered adsorbents of the first structural type. There are 2 figures and 11 references, 7 of which are Soviet.

ASSOCIATION: Institut fizicheskoy khimii Akademii nauk SSSR (Institute of Physical Chemistry of the Academy of Sciences, USSR)

SUBMITTED: December 30, 1959

Card 2/2

BERING, B.P.; SERPINSKIY, V.V.

Properties of surface solutions and surface heterogeneity. Izv.AN SSSR Otd.khim.nauk no.3:406-414 Mr '61. (MIRA 14:4)

1. Institut fizicheskoy khimii Akademii nauk SSSR. (Adsorption)

BERING, B.P.; LIKHACHEVA. O.A.; SERPINSKIY, V.V.

Adsorption of mixtures of ethylene with carbon dioxide on carbon black. Izv.AN SSSR Otd.khim.nauk no.4:551-559 Ap \*61.

(MIRA 14:4)

1. Institut fizicheskoy khimii AN SSSR.

(Ethylene) (Carbon dioxide) (Adsorption)

BERING, B.F.; SERPINSKIY, V.V.

Adsorption of gas mixtures. Report No.6: Adsorption equilibrium adsorption of gas mixtures. Report No.6: Adsorption equilibrium state in the system water - n.heptane - silica gel. Izv.aN SSSR. (MIRA 14:11) nauk no.11:1947-1954 N '61.

1. Institut fizicheskoy khimii AN SSSR. (Adsorption) (Heptane) (Silica) (Adsorption)

S/076/61/035/001/021/022 B004/B060

AUTHORS: Bering, B. P. and Serpinskiy, V. V.

TITLE: Academician Mikhail Mikhaylovich Dubinin (on the occasion of

his 60th birthday)

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 1, 1961, 225-227

TEXT: This is an article on the scientific activity of M. M. Dubinin, written on the occasion of his 60th birthday on January 1, 1961. He began his scientific activity in 1920 as a student of Nikolay Aleksandrovich Shilov, and investigated problems of theoretical analysis and practical application of sorption effects on porous bodies. On this field he application of than 250 papers. On the basis of the classical theory of the adsorption potential, he worked out a method of solving scientific and practical problems in this field, which makes it possible to calculate the most important parameters of sorption equilibrium (degree of adsorption, differential heats, adsorption entropy, etc.) for any vapors within a wide range of temperatures and pressures, including the critical and transcritical ranges. The method is sufficiently accurate for most practical

Card 1/2

Academician Mikhail Mikhaylovich Dubinin ...

S/076/61/035/001/021/022 B004/B060

purposes. Dubinin worked out a classification of adsorbents on the basis of their structure. His great experience in chemical technology enabled him to make practical use of his research work for the improvement of commercial sorption processes. Mention is made of his many papers on theoretical and practical problems of gas defense and of the manufacture and commercial use of molecular sieves (synthetic zeolites). Special lectures and laboratories on sorption processes were organized under Dubinin's supervision. In 1943, he was appointed Member of the Academy of Sciences USSR. Since 1948 he has been Academician-Secretary of Otdeleniye khimicheskikh nauk Akademii nauk SSSR (Department of Chemical Sciences, Academy of Sciences USSR) and a member of the Presidium of the Academy. In 1946 he was elected President of Vsesoyuznoye khimicheskoye obshchestvo im. D. I. Mendeleyeva (All-Union Chemical Society imeni D. I. Mendeleyev). In addition, Dubinin is a deputy to the Verkhovnyy Sovet RSFSR (Supreme Council of the RSFSR), and was twice awarded the Stalin Prize and also the Order of the USSR. There is 1 figure.

Card 2/2

(MIRA 14:6)

BERING, B.P.; DUBININ, M.M., akademik; SERPINSKIY, V.V.

Adsorption isosters in the potential theory. Dokl.AN SSSR 138

1. Institut fizicheskoy khimii AN SSSR.
(Adsorption) (Potential, Theory of)

no.6:1373-1376 Je '61.

322-4361 VV

138

#### PHASE I BOOK EXPLOITATION

sov/6246

Soveshchaniye po tseolitam. 1st, Leningrad, 1961.

Sinteticheskiye tseolity; polucheniye, issledovaniye i primeneniye (Synthetic Zeolites: Production, Investigation, and Use). Moscow, Izd-vo AN SSSR, 1962. 286 p. (Series: Its: Doklady) Errata slip inserted. 2500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Otdeleniye khimicheskikh nauk. Komisiya po tseolitam.

Resp. Eds.: M. M. Dubinin, Academician and V. V. Serpinskiy, Doctor of Chemical Sciences; Ed.: Ye. G. Zhukovskaya; Tech. Ed.: S. P. Golub'.

PURPOSE: This book is intended for scientists and engineers engaged in the production of synthetic zeolites (molecular sieves), and for chemists in general.

Card 1/12 3

Synthetic Zeolites: (Cont.)

SOV/6246

COVERAGE: The book is a collection of reports presented at the First Conference on Zeolites, held in Leningrad 16 through 19 March 1961 at the Leningrad Technological Institute imeni Lensovet, and is purportedly the first monograph on this subject. The reports are grouped into 3 subject areas: 1) theoretical problems of adsorption on various types of zeolites and methods for their investigation, 2) the production of zeolites, and 3) application of zeolites. No personalities are mentioned. References follow individual articles.

TABLE OF CONTENTS:

Foreword

3

Dubinin, M. M. Introduction

5

Card 2/12 3

ynthetic Zeolites: (Cont.)	sov/6246
THEORETICAL PROBLEMS OF ADSORPT METHODS OF INVESTIGA	TION ON ZEOLITES. TION
Dubinin, M. M., Z. A. Zhukova, and N. V. Ke cability of the Potential Theory to the Gases and Vapors by Synthetic Zeolites	Adsorption of 7
Bering, B. P., V. V. Serpinskiy. Adsorption Synthetic Zeolites Within the Framework Theory	on Isosteres for of the Potential
Timofeyev, D. P., O. N. Kabanova, I. T. Yer Ponomarev. The Role of the Secondary Po in the Kinetics of Water-Vapor Sorption	rashko, and A. S. prosity of Zeolites
Misin, M. S., B. V. Adrianova, and M. N. Adgation of the Adsorption and Kinetic Prolar Zeolites With the Aid of Thoron	irianov. Investi- operties of Granu- 31

BERING, B.P.; SERPINSKIY, V.V. Thermodynamic criterion for the applicability of the potential Thermodynamic criterion for the application of theory of adsorption. Dokl. AN SSSR 148 no.6:1331-1334 F (MIRA 16:3)

> 1. Institut fizicheskoy khimii AN SSSR. (Adsorption) (Thermodynamics)

163.

BERING, B.P.; SERPINSKIY, V.V.; SURINOVA, S.I.

Adsorption of vapor mixtures and the structure of adsorbents. Dokl. AN SSSR 154 no.6:1417-1420 F 64. (MIRA 17:2)

1. Institut fizicheskoy khimii AN SSSR. Predstavleno akademikom M.M. Dubininym.

BERING, B.P.; SERPINSKIY, V.V.; SURINOVA, S.I.

Preliminary computation of adsorption equilibrium parameters for the system adsorbent - binary mixture of vapors. Dokl. AN SSSR 153 no.1:129-132 N '63. (MIRA 17:1)

1. Institut fizicheskoy khimii AN SSSR. Predstavleno akademikom. M.M. Dubininym.

BERING, B.P.; SERPINSKIY, V.V.; SURINOVA, S.I.

Adsorption of vapor mixtures on zeolites. Izv. AN SSSR Ser. khim no.7:1309-1311 Jl '64. (MIRA 17:8)

1. Institut fizicheskoy khimii AN SSSR.

20352\_66 EWT(m)/EWP(j)/T RM

THE THE THE PROPERTY OF THE PR

ACC NR: AP6012079

SOURCE CODE: UR/0062/65/000/005/0769/0776

AUTHOR: Bering, B. P.; Serpinskiy, V. V.; Surinova, S. I.

29 B

ORG: Institute of Physical Chemistry, AN SSSR (Institut fizicheskoy khimii AN SSSR)

TITLE: Adsorption of a mixture of gases. Communication 7. Joint adsorption of a binary mixture of vapors on activated charcoal

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 5, 1965, 769-776

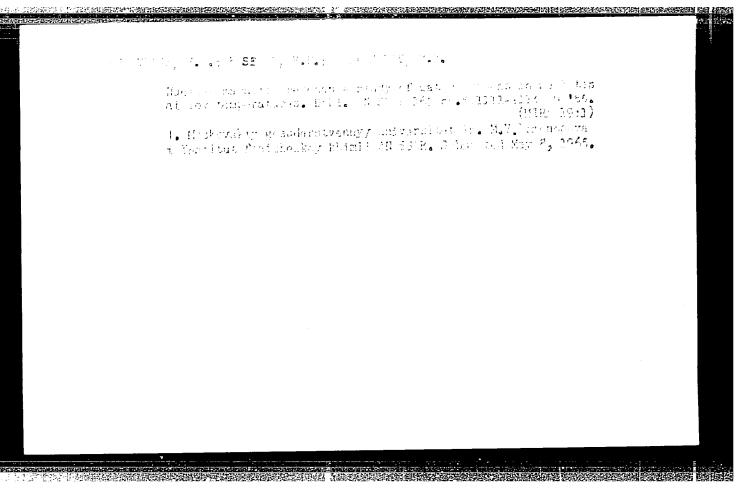
TOPIC TAGS: adsorption, diethyl ether, chloroform, gas adsorption

ABSTRACT: A method was developed for calculating the parameters of adsorption equilibrium of a binary mixture of vapors on an adsorbent within the framework of the theory of volume filling of micropores (potential theory of adsorption). The adsorption isotherms on activated charcoal were measured for diethyl ether at 50, 60, and 71°, ethyl chloride at 50 and 71°, chloroform at 60°, and for mixtures of ethyl chloride with diethyl ether at 50 and 60° and diethyl ether with chloroform at 60°. A generalization of the Dubinin-Radushkevich equation for the adsorption of an individual substance on adsorbents of the first structural type was proposed for the cumulative adsorption of the components of a binary system of vapors. This equation was found to be a good approximation of the experimental data. The generalization of the Dubinin-Radushkevich equation, in conjunction with the Lewis empirical equation, can be used for an approximate calculation of the adsorption of each component of the mixture according to the set partial equilibrium pressures of the components, if the phase diagram of

<u>Card</u> 1/2

UDC: 541.183+661.183.2

vol ads	or.hertot	Lution of	ons the	of the	onents	ostances i	mivture	MONO	~~~~~~	-A P-	41	- 4.1 7	0	: :
C11.I.	oride-d formula	いてらぐれ	1y T	erner	system	n. Orig.	art. has	7 :	figures,	1 ta	ble, a	and	1:	
				_	DATE:	10May63	/ ORIG	REF:	008 /	ОТН	REF:	003		-
				٠										. 4. . 4.
									٠.	***				
					•									
										•				
										٠				•
						•							-	-
														<del>-</del>
	2/2	VI	.L											



MUMINOT, S.C.; SCEIMG, S.P.; CERPHORIT, V.V.

Gapillary condensation thermodynamics. Fzv.AN SASR. Ser.khim.
no.Lr3-55 \*\*166. (MER 19:1)

1. Institut fizisheskoy khimii AN SSSR. Submitted July 3, 1965.

SERPIONOV, N.N., professor, kandidat tekhnicheskikh nauk.

Technical calculations for rigidity of rotary press printing units.
Nauch.trudy MZPI no.2:125-149 '55. (MLHA 9:3)

(Frinting press)

#### CIA-RDP86-00513R001548130010-8 "APPROVED FOR RELEASE: 08/23/2000

SEKPLENCE, N. K.

124-11-13295

Translation from: Referativnyy Zhurnal, Mekhanika, 1957, Nr 11, p 144 (USSR)

Serpionov, N. N. AUTHOR:

On the Stresses in the Constrained Ends of Beams. TITLE:

(O napryazheniyakh v zashchemlemyšin kontsakh balok.)

PERIODICAL: Sb. tr Mosk, zaochn. poligr. in-t, 1957, Nr 5, pp 151 10.

It is proposed that the well-known solution of the two-dimensional polynomial problem of the theory of elasticity be utilized in the evalu-ABSTRACT:

ation of the stresses in the constrained ends of beams having a rectangular cross section. It is assumed, a priori, that the normal forces are linearly distributed and that there are no tangential reactions

along the constrained longitudinal edges of the beam.

The problem is posed incorrectly. The distribution of the reaction on the constrained portions must be found from the equation of the theory of elasticity, with the stipulation that the constrained ends are

not subjected to displacement.

V, K. Prokopov

Card 1/1

14(10)

PHASE I BOOK EXPLOITATION

SOV/2163

Serpionov, Nikolay Nikolayevich, Professor

Kurs lektsiy po soprotivleniyu materialov; dlya studentov tekhnologicheskogo fakul'teta (Course of Lectures on the Resistance of Materials; for Engineering Students) Moscow, 1958. 184 p. 1,000 copies printed.

Sponsoring Agency: Moskovskiy zaochnyy poligraficheskiy institut.

Ed .: I.D. Kamkina.

PURPOSE: This is a textbook for students of Engineering Departments of Universities.

COVERAGE: This is a concise course on the strength of materials. The book discusses stresses and deformations of rigid bodies under the action of tension, compression, torsion, simple and longitudinal flexure, and under combined stresses. A special chapter describes concepts of strength under variable stresses and gives examples of practical computations of fatigue strength. An outline history of

Card 1/10

的,我们们也是我们的全体是我的是我们的情况,我们就没有的的意思,但这个人的人,这个人是这些人的,我们就是这种的的,我们就是我们的人,我们就是这种的人,我们就是这

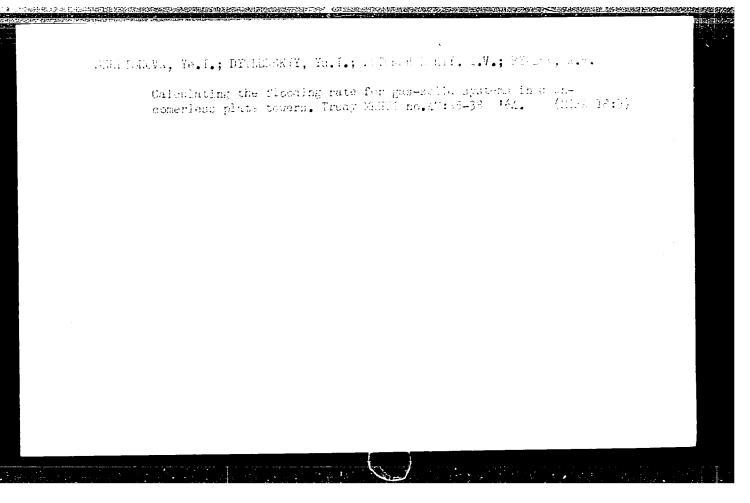
Course of Lectures (Cont.)

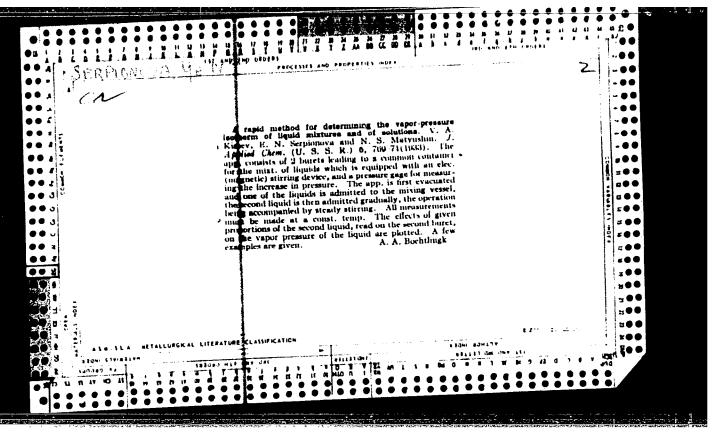
sov/2163

the development of the science of the strength of materials is given. The following personalities are mentioned: M.V. Ostragradskiy, mathematical theory of elasticity; D.I. Zhuravskiy, Engineer, theory of flexure of bars; Kh. Golovin, exact solution of the problem of stresses in a curved bar; F.S. Yasinskiy, first to present the problem of resistance beyond the limit of proportional deformations; M.M. Filinenko-Borodich, I.I. Rabinovich, and N.V. Kornoukhov, problems of strength, stability, and vibrations; N.N. Davidenkov and S.V. Serensen, stresses in impacts and fatigue strength. There are no references.

#### TABLE OF CONTENTS:

Introduction	3
Ch. I. Tension and Compression Within Elastic Limits  1. Basic concepts  2. Tension and compression  3. Hooke's law in tension and compression and Poisson's coefficient  4. Tensile test diagram of a specimen of soft steel and its characteristic points	5 8 9 12
Card 2/10-	





SERPICHOVA, Yelizaveta Mikolayevna; LUCHINSKIY, G.F., redaktor; SHPAK, Ye.G., tekhnicheskiy redaktor

[Industrial adsorption of gases and vapors] Promyshlennaia adsorbtsiia gazov i parov. Moskva, Gos. nauchno-tekhn. izd-vo khim. lit-ry, 1956.

(MIRA 10:1)

(Gases) (Vapors) (Adsorption)

SOV/153-2-3-8/29 5(4) Serpionova, Ye. N. AUTHOR: Determination of the Duration of the Adsorption Process for TITLE: the First Range of the Langmuir Isotherm Izvestiva vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1959, Vol 2, Nr 3, pp 352-359 (USSR) PERIODICAL: In order to determine the duration of adsorption, the approximation formulas by Zhukhovitskiy, Tikhonov, and ABSTRACT: Zabezhinskiy (Refs 1 and 2) are widely used; moreover, Schumann (Ref 3) suggested a graphical solution (Fig 1). In the present paper a new graphical solution is suggested; the corresponding diagrams are shown by figures 2 and 3. These

diagrams make it possible to determine the quantity hequ which the period  $\tau$  and the mass transfer coefficient  $\rho$  may be computed. (hequ denotes the height of the adsorption layer

equivalent to one transfer unit.) It is shown by two examples that the method is simple and sufficiently precise. The agreement with experimental results and the results of the computation according to Zhukhwitskiy, Tikhonov, and Zabezhinskiy

Card 1/2